

Workplace Health Statistics and Methodology Note

Estimated annual deaths due to work-related diseases

In 2012, the Health and Safety Executive (HSE) published a report by Imperial College London entitled “The Burden of Occupational Cancer in Great Britain”¹. This report used mortality data in 2005 to estimate the number of deaths in Great Britain due to work-related exposure to carcinogenic agents.

Figure 1 estimates the annual number of deaths in NI attributable to the same work-related causes. It should be noted that there are a number of assumptions made in the Imperial College paper to estimate GB and the methodology applied to estimate NI figures to include a number of further assumptions as outlined below, so these estimates should be treated with caution.

The general approach has been to use NI data if possible for specific causes and where this is not possible (such as in the detailed breakdowns of causality for lung or breast cancer) to use a population pro-rata² of the 2005 GB estimates and uplift these to reflect more recent overall mortality trends in cancer in NI³.

The table below briefly outlines the methodology employed to estimate the number of deaths in Northern Ireland attributable to each work-related illness. Estimates have been rounded to the nearest 5 in every case.

Work-related illness	Methodology
Mesothelioma	Approximate average of death certificate info 2001-2015 containing ICD10 code C45
Lung cancer (asbestos related)	1:1 lung cancer to mesothelioma ratio used, as explained on page 12 of the Imperial College London report
Lung cancer (Silica)	Population pro-rata applied to 2005 deaths in GB and uplifted to reflect the increase in total lung cancer deaths from 2005 to 2015 (the year that latest data is available)
Lung cancer (diesel exhaust)	Population pro-rata applied to 2005 deaths in GB and uplifted to reflect the increase in total lung cancer deaths from 2005 to 2015
Lung / bladder cancer (mineral oils)	Population pro-rata applied to 2005 deaths in GB and uplifted to reflect the increase in total lung cancer / bladder cancer deaths from 2005 to 2015
Asbestosis	Average of death certificate info 2001-2015 using the J61 code for Pneumoconiosis due to asbestos and other mineral fibres as primary cause
Breast cancer (shift-work)	Population pro-rata applied to 2005 deaths in GB and uplifted to reflect the increase in total breast cancer deaths from 2005 to 2015
COPD	Population pro-rata applied to 2005 deaths in GB and uplifted to reflect the increase in those with a primary cause of death as a result of chronic lower respiratory disease from 2005 to 2015
Other cancers	Population pro-rata applied to 2005 deaths in GB and uplifted to reflect the increase in total cancer deaths from 2005 to 2015

¹ <http://www.hse.gov.uk/research/rrpdf/rr931.pdf>

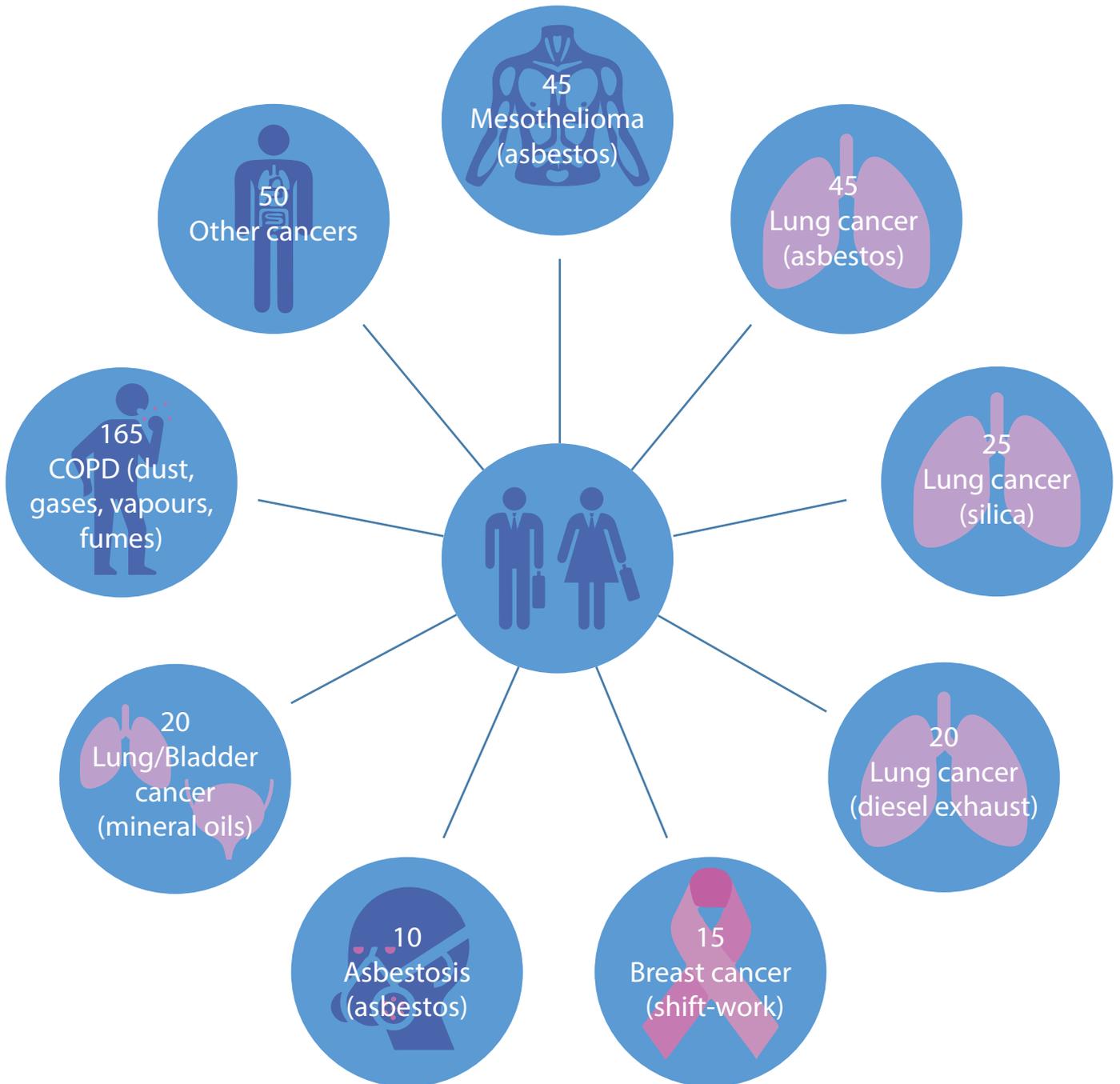
² As outlined in ONS mid-year population estimates:

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/latest>

³ As outlined in the NI Registry Official Statistics: <http://www.qub.ac.uk/research-centres/nicr/CancerInformation/official-statistics/BySite/>

Estimated annual deaths due to work-related diseases (casual agents in brackets)

Figure 1



Cost of workplace injuries 2014 - 2015

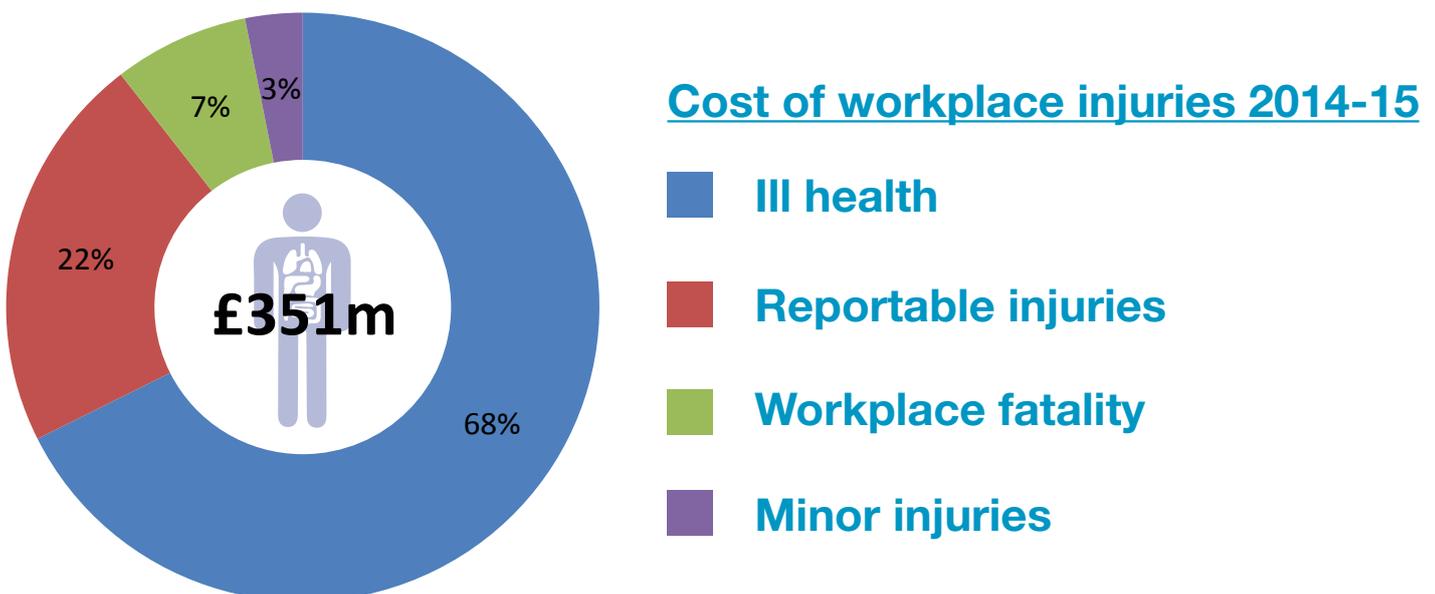
The HSE periodically provides estimates of the cost of workplace injuries and ill-health to the GB economy, but does not include data for Northern Ireland. These estimates are included in a report prepared by DfE Analytical Services, which uses the same broad methodology as that employed in the HSE report and builds on the previous Northern Ireland report⁴. It should be noted that significant limitations remain with this approach due primarily to the lack of robust Northern Ireland specific data, so these estimates should be treated with caution.

The HSENI provided Analytical Services with information on the number of fatal injuries, major injuries as well as reported over 3-day injuries. Sample numbers from the NI Labour Force Survey (LFS) were deemed too small to provide a robust estimate of the incidence of both minor injury and work-related ill-health. Therefore, Analytical Services applied the annual average 2014-15 rate of incidence per 10,000 employees established in the GB report to the total number of employees within Northern Ireland. This makes the assumption that employees in NI are no more or less likely to suffer work-related minor injuries and ill-health than elsewhere in the UK.

Again, as per previous report, Analytical Services concluded that it would continue to be appropriate to base the NI estimates on the GB cost and wage data. This is due to the fact that both NI and GB continue to experience many of the same cost profiles and that the GB report did not model for any regional variation in wages.

Using the available HSENI data (which has been compiled using a three year average as per the GB methodology), supplementing it with the derived data for minor injuries and ill-health and applying GB cost and wage data produces the estimated costs to Northern Ireland of workplace fatalities, injuries and ill-health for 2014-15 as outlined in Figure 2.

Figure 2



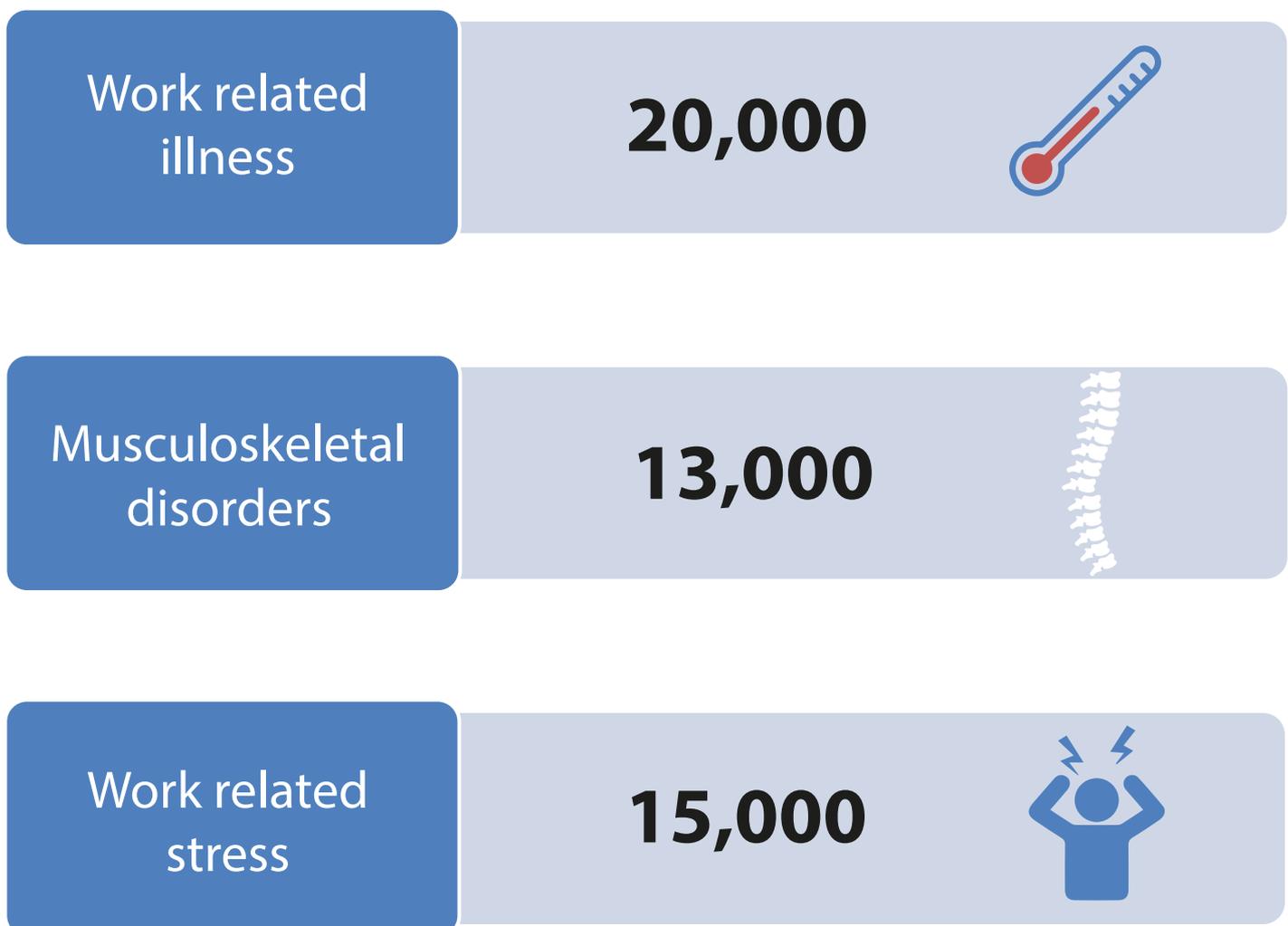
⁴ Available at: <https://www.economy-ni.gov.uk/sites/default/files/publications/deti/costs-to-ni-of-workplace-injury-and-ill-health.pdf>

Work-related ill health 2015 - 2016

Figure 3 estimates the number of workers in NI suffering from work-related ill health (new or long-standing) in 2015-16. The estimates for those suffering from a work-related illness and for those suffering from work-related musculoskeletal disorders are based on self-reports from the Labour Force Survey.

Sample numbers are too small to provide a robust estimate of workers suffering from work-related stress therefore we have applied a population pro-rata⁵ of the HSE GB estimate⁶ and rounded to the nearest 1,000.

Figure 3



⁵ As outlined in ONS mid-year population estimates:

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/latest>

⁶ As outlined in HSE Health and Safety at Work summary statistics: <http://www.hse.gov.uk/statistics/overall/hssh1516.pdf?pdf=hssh1516>